PROBLEMS OF WATER AND ENERGY SECURITY IN CENTRAL ASIA

Prepared by:
Yu. Petrenko

June 1999

Prepared for:

Central Asia Mission
U. S. Agency for International Development

Environmental Policy and Institutional Strengthening Indefinite Quantity Contract (EPIQ)
Partners: International Resources Group, Winrock International, and Harvard Institute for International Development

Subcontractors: PADCO; Management Systems International; and Development Alternatives, Inc.

Collaborating Institutions: Center for Naval Analysis Corporation; Conservation International; KBN Engineering and Applied Sciences, Inc.; Keller-Bliesner Engineering; Resource Management International, Inc.; Tellus Institute; Urban Institute; and World Resources Institute.

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The problem of use of water and energy resources for countries where irrigation farming prevails in the agricultural sector (Uzbekistan, Kazakhstan, Kyrgyzstan, and other Central Asian countries) has gained nowadays a new qualitative aspect due to the following factors:

First, the use of water in Central Asia is perceived as one of the key elements of regional security;

Second, the prospect of regional integration largely depends on how successfully and efficiently the Central Asian countries use water and energy resources.

It is known that the Central Asian countries have been historically prioritizing the use of water and energy resources. In the former USSR, there was a unified system of use of water and energy resources.

The process of gaining independence by the Central Asian countries was followed by adjustment of water and energy relations in the region. Naturally, the process is of very complicated nature since it is related to one of the key issues of regional security. It is not a secret that the Central Asian countries treat the shortage of water or energy resources as one of the potential threats to national interests and security.

The years of sovereign development were marked by the development of principal approaches in the Central Asian states to the use of water and energy resources. During the short period of development of relations between the regional states, they experienced differences and nonconcurrence in their approaches. If putting aside the details, these approaches can be presented as the following two main positions:

1. Use of water resources on the principle of "water charges". The approach is more characteristic for the upstream countries like Kyrgyzstan.

2. Development of cooperation between the CAR on the basis of joint and rational management of water resources and facilities (position developed by Uzbekistan).

This position of Uzbekistan is based on the following factors:

First, all the water facilities have been constructed within a big and united state. Therefore, the maintenance of optimal modes of operation of these facilities by a single state is very problematic.

Second, there has not been developed yet a single and unified methodology of calculating water charges. Moreover, there are no analogues in the world that can be used as an example for the conditions of Central Asia. The international experience of management of transboundary water resources in more than 100 water basins has no examples of water charges for natural water resources existing in their natural or jointly developed mode.

Third, the schedule of water releases from reservoirs of the upstream countries is not always rational. Thus, bigger water releases due to power generation needs of the upstream countries in the wintertime provide for water shortages during a growing season in the summer time.

Fourth, joint and efficient use of regional water resources provides for development and implementation of complex national programs aimed at the rational use of water resources. Uzbekistan is actively working in this direction.

The above mentioned differences in approaches were a subject of discussions for finding compromise solutions for a long time. A serious step in resolving these differences was made through signing March 17, 1998 Bishkek agreements between Kazakhstan, Uzbekistan, and Kyrgyzstan. These framework agreements are based on the principle of joint use of water and energy resources and compensation of energy losses of the water supply country (Kyrgyzstan) by the water consumption countries (Uzbekistan and Kazakhstan).

Such an approach is not only justified for the conditions of the Naryn Syr Darya Basin but is the most promising since it shows the way that the independent countries has to take in resolving the problem of use of water resources.

However, implementation of the Bishkek Agreement revealed some problems. On the other hand, it showed new prospects and landmarks of cooperation.

One of the main problems was connected with the delays of compensation deliveries caused by Kazakhstan. This problem has objective and subjective sides. Compensation commitments were guaranteed by the Central Asian states. However, not all of the states are capable of fulfilling their obligations.

If the Republic of Uzbekistan still controls such economic sectors as extraction of gas, oil, coal and etc., the Republic of Kazakhstan has a different situation where the majority of such sectors were privatized. Therefore, they are not responsible for actions and obligations of their government.

Based on that, we can make a conclusion that the existing water problems (and other international problems as well) are caused by the following serious factors:

1. Differences in strategies of reforms implemented by the Central Asian countries that have different models, speed and efficiency.

2. Serious legislative differences between the CAR.

However, despite the constraints in implementing the Bishkek agreements, new prospects and landmarks of cooperation are quite visible.

One of the landmarks can be associated with the idea of parallel functioning of energy systems. In the former Soviet Union, there was established a single energy system which is still operational and allows to make energy transfers. The United Energy System of Central Asia (UES CA) was established for providing a reliable

energy supply of regional consumers taking into account rational use of available regional resources.

Formation of the UES CA was completed in 1980-s. By that time, there was established an infrastructure that included sources of electric power and 220-250 kV power transmission lines with distribution substations. At the same time, work on parallel functioning of the UES CA with the united energy system of the former USSR was started. A number of 500-1150 kV transmission lines was planned for construction in Kazakhstan for performing up to 2000 MV power exchanges between the Northern Kazakhstan and the UES CA. The construction activities were not completed due to the collapse of the USSR and were practically cancelled in 1990-s.

With the transition of the energy sector to a market economy, the issue of parallel functioning of the UES CA with the energy systems of the Northern Kazakhstan and the United Energy System of Russia becomes critical again. Largely, it is dictated by the necessity to expand the market and provide an access to the NIS consumers.

Such an approach in coordination with national programs of rational water use would allow to increase the efficiency of hydrotechnical facilities of the upstream countries, as well as provide for agreed irrigation schedules, coordination of decisions on water releases, power generation and transfers, and compensation of energy losses on the equivalent basis.

This way of developing relations between the CAR seems to be complicated but the only possible and promising in terms of strengthening regional security and integration processes in Central Asia.